

IN THE CLAIMS:

1. (Currently Amended) A method for suppressing sickle cell disease ~~caused or enhanced by effects of intracellular iron mismanagement~~ comprising:

 ~~increasing the intracellular amount of~~ exposing globin producing cells to at least one ferritin-H or ~~a derivative~~ conservatively modified variants thereof such that the cells absorb the at least one ferritin-H to an effective level.
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)
11. (Currently Amended) A method for treating sickle cell disease comprising:

 suppressing the expression of adult β -globin genes in globin-producing cells ~~with ferritin-H or a derivative thereto~~ by inducing expression of an endogenous ferritin-H gene of the globin-producing cell.
12. (Canceled)
13. (Canceled)
14. (Canceled)

15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Currently Amended) The method for treating sickle cell disease of claim 1+ wherein the ferritin-H or ~~derivative~~ conservatively modified variants thereof binds to the promoter region of the α β -globin gene.
20. (Canceled)
21. (Canceled)
22. (Currently Amended) A pharmaceutical composition comprising ferritin-H or a derivative thereof; ~~and, a cell-specific targeting ligand.~~
23. (Canceled)
24. (New) The method of claim 1 wherein globin producing cells are exposed to ferritin-H or conservatively modified variants thereof *in vivo* by injecting the ferritin-H into bone marrow.
25. (New) The method of claim 1 wherein globin producing cells are exposed to ferritin-H or conservatively modified variants thereof *ex vivo* subsequently transplanted into bone marrow.
26. (New) A method of treating sickle cell disease comprising transforming globin producing cells *ex vivo* with a vector comprising a gene sequence encoding ferritin-H or a conservatively modified variant thereof and subsequently transplanting the cells into bone marrow.
27. (New) The method of claim 1 wherein the globin producing cells are erythroid precursor cells.